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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/106,994	06/29/1998	TONIA G. MORRIS	INTL-0061(P5	7440

7590 05/06/2002
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Houston, TX 77024

EXAMINER

WHIPKEY, JASON T

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 05/06/2002

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/106,994

Applicant(s)

MORRIS ET AL.

Examiner

Jason T. Whipkey

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 1998 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

- ✓ 1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Drawings

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily

published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 2, 4, 6, 7, 9, 11-14, 16, and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Elabd.

Regarding claim 1, Elabd discloses an image sensor with an array 480 of photosensitive elements 484. The entire resolution of the imager may or may not be used to capture red, green, and blue images (column 4, lines 57-59). Storage location 490 may be used to individually store the RGB images captured by elements 484.

Regarding claim 2, Elabd teaches that charges from successive RGB exposures are stored sequentially in register 490 (column 5, lines 21-25).

Regarding claim 4, Elabd teaches that analog charges are stored (column 2, lines 62-65).

Claim 6 may be treated like claim 1. In addition, filters 462 in wheel 460 are used in front of the image sensor (column 2, lines 45-49). Interface device 92 controls the filter wheel 82 (column 9, lines 11-13).

Claims 7 and 9 may be treated like claims 2 and 4, respectively.

Regarding claim 11, Elabd teaches that charges from successive RGB exposures are stored sequentially in register 490 (column 5, lines 21-25).

Regarding claims 12 and 13, Elabd discloses that charges from the three color exposures may be read out sequentially from storage register 490 (column 5, lines 21-23).

Claim 14 may be treated like claim 11.

As for claim 16, Elabd teaches that analog charges are stored (column 2, lines 62-65).

As for claim 17, filters 462 in wheel 460 are used in front of the image sensor (column 2, lines 45-49). Interface device 92 controls the filter wheel 82 (column 9, lines 11-13).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 5, 8, 10, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elabd in view of Yanai.

Regarding claim 3, Elabd discloses an image sensor with an array 480 of photosensitive elements 484. The entire resolution of the imager may or may not be used to capture red, green, and blue images (column 4, lines 57-59). Storage location 490 may be used to individually store the RGB images captured by elements 484. Charges from successive RGB exposures are stored sequentially in register 490 (column 5, lines 21-25).

Elabd is silent with regard to including an A/D converter in the circuitry of each pixel sensor.

Yanai discloses an image pickup device, with pixels shown in Figure 34. Each pixel includes an A/D converter 11, which allows a digital signal to be stored in the pixel's shift register 12. As stated in column 29, lines 32-37, this reduces the amount of analog information transfer, resulting in an image of higher quality. Therefore, it would have been obvious to have the Elabd's image sensor perform A/D conversion within each pixel.

Claim 5 may be treated like claim 3.

Regarding claim 8, Elabd discloses an image sensor with an array 480 of photosensitive elements 484. The entire resolution of the imager may or may not be used to capture red, green, and blue images (column 4, lines 57-59). Charges from successive RGB exposures are stored sequentially in register 490 (column 5, lines 21-25). Filters 462 in wheel 460 are used in front of the image sensor (column 2, lines 45-49). Interface device 92 controls the filter wheel 82 (column 9, lines 11-13).

Elabd is silent with regard to including an A/D converter in the circuitry of each pixel sensor.

Yanai discloses an image pickup device, with pixels shown in Figure 34. Each pixel includes an A/D converter 11, which allows a digital signal to be stored in the pixel's shift register 12. As stated in column 29, lines 32-37, this reduces the amount of analog information transfer, resulting in an image of higher quality. Therefore, it would

have been obvious to have the Elabd's image sensor perform A/D conversion within each pixel.

Claim 10 may be treated like claim 8.

Method claim 15 may be treated like apparatus claim 8.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason T. Whipkey, whose telephone number is (703) 305-1819. The examiner can normally be reached Monday through Friday from 8 A.M. to 5:30 P.M. eastern daylight time, alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R. Garber, can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned are (703) 872-9314 for both regular communication and After Final communication.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, whose telephone number is (703) 306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Art Unit: 2612

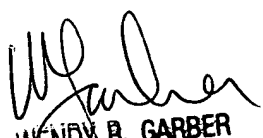
or faxed to (703) 872-9314 for either formal or informal communications intended for entry. (For informal or draft communications, please label "**PROPOSED**" or "**DRAFT**".)

Hand-delivered responses should be brought to the sixth floor receptionist of Crystal Park II, 2121 Crystal Drive in Arlington, Virginia.

jtW

JTW

April 17, 2002


WENDY R. GARBER
SUPERVISORY/PATENT EXAMINER
TECHNOLOGY CENTER 2600